

DISCUSSION GROUP P5: Centrifugal Pump Operation, Maintenance and Reliability,

Discussion Leaders:

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Proposed topics to be selected from:

Repair Specs, use, in house repair specs

Lube oil storage and usage

Mechanical seals and bearings issues

Pump monitoring – how are we doing this and how do we want to do this

Craft training – precision maintenance

Best practices for pump maintenance; Back pullout vs. pulling entire pump:

Open bearing housings vs sealed – wet sump

Seal plan which was not expected – wrong for the application

Preventive/predictive technologies

Off design operation

Mean time between failure (MTBF), other KPI's – how do we measure, and how do we use the metrics

How to create pump reliability in an unreliable plant

Seal-less versus sealed pump reliability, canned motor pumps versus mag drive pump reliability

Mechanical Integrity Inspections of VS 6 pumps in hydrocarbon service

Seals in light hydrocarbon service – operations, risk, leak response, maintenance

Pump predictive/preventive maintenance program elements – philosophy, frequencies.

Measures of effectiveness of preventive and predictive programs for pumps

Roles of operations and maintenance/reliability in improvements and data collection

Reliability experience with liquid versus non contacting gas seals applications

Maintenance philosophy for pumps – what constitutes “best practices”

Spare parts – OEM versus non-OEM

Repairs – OEM versus non-OEM service facilities

Pump foundation, alignment and pipe strain influence of reliability

Impact of corporate purchasing alliances on pump reliability

a. Repair facilities alliances

b. New equipment purchasing alliances

Repair techniques and material improvements

Portable and on-line monitoring – impact on reliability

Wireless monitoring – impact on reliability and risk of failure

Optimization of thrust bearings configuration

Lubrication system impact on reliability – oil mist versus flood, oil selection

Mechanical Seals

Use of non-metallic vs metallic materials for stationary wear rings

LLDS (Look Listed Feel Smell) – how to build effective daily surveillance by operators and maintenance

Epoxy coating of pump foundations

Bearing isolators – what is the best practice (magnetic vs. others)

Hot alignment – how applied, when needed, application with the current LOTO procedures.